CHAPTER

# 1

# Installing Your Hardware

**In this chapter**

- Your modem package
- Connecting the GeoPort Telecom Adapter
- Connecting internal modems

## Your modem package

Your modem package contains hardware and software that bring fax, data, Internet access, and address book capabilities to your computer.

If your modem was not installed either at the factory or by your Apple-authorized service provider, your package contains one of the following modems

- GeoPort Telecom Adapter
- PC Card modem

Your package also contains

- a telephone cord
- a CD-ROM or set of disks (if your software is not preinstalled on your computer) containing
  - the Apple Telecom software
  - the following user's guides in Adobe Acrobat format
    *Apple Address Book User's Guide*
    *Apple Fax User's Guide*
    *Apple Fax Scripting Guide*
    *Apple Telecom AT Command Set*

  **Note:** On Performa computers, you can find the *Apple Address Book User's Guide* and *Apple Fax User's Guide* in the Applications Section of the Launcher.

- this guide, *Getting Started With Apple Telecom*

## Where to begin

To get started using your hardware and software, turn to the appropriate section in this chapter for information about connecting your modem hardware, then proceed to Chapter 2 for instructions on installing the software.

- If you have the GeoPort Telecom Adapter, follow the instructions for connecting the adapter in the section "Connecting your GeoPort Telecom Adapter."
- If you have the GeoPort Internal Modem or the Express Modem, follow the instructions for connecting it to the telephone line in the section "Connecting your internal modem."
- If you have a PC Card modem, follow the instructions for connecting it to your computer in the manual that accompanies the modem.

**Important** If you are using a PC Card modem, you need to choose the correct port setting from the Apple Serial Modem control panel before you can begin to use it.

*See:* Chapter 5, "Using Your Modem" for information about choosing settings in the Apple Serial Modem control panel.

## Other items you may need

To use your hardware and software you may also need

- **An analog telephone line** Your modem is designed for use with a traditional analog telephone system. Most homes use an analog system. Many offices and hotels, however, use a Private Branch Exchange (PBX) with digital extensions. If your office or hotel room uses a digital extension, contact the office telephone manager or service provider about acquiring the use of an analog line.
- **A modular connector on your telephone line** If your telephone cord cannot be removed from the wall or has a nonstandard connector, you may need a modular adapter or a telephone installation that provides a modular connector. Ask your local telephone service provider for assistance in selecting the most appropriate solution for a modular connector.

**If you are missing something** If you are missing something in your package, contact your Apple-authorized service provider, or refer to the service and support materials that came with your computer for a number to call.

## Connecting your GeoPort Telecom Adapter

To connect your Macintosh to your telephone line, plug one end of the GeoPort Telecom Adapter into your Macintosh and the other end into your telephone wall socket and telephone.

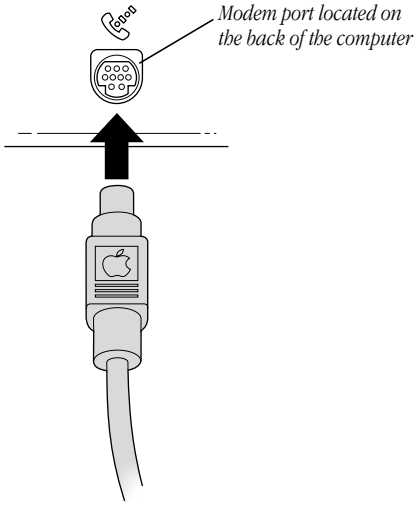
### Connecting the adapter to your computer

To connect the adapter to your computer

**1** Locate the modem port at the back of your computer.

The modem port is marked with the icon.

**2** Plug the adapter's cable into your computer's modem port, as illustrated below.

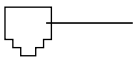


## Connecting the adapter to the telephone line

You need a standard telephone wall socket to connect the adapter to your analog telephone line using the supplied cable. If the supplied cable does not reach your telephone outlet, you can buy a longer one from a telephone equipment provider.

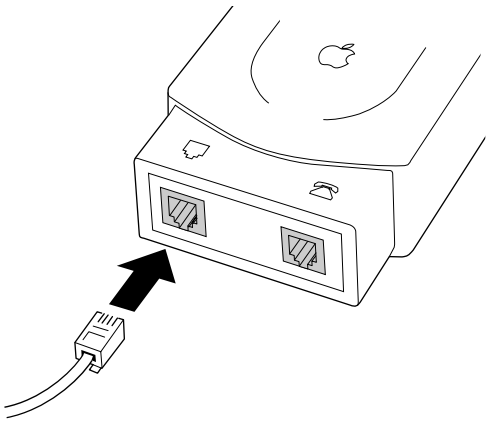
**1** Locate the telephone cable that comes with your adapter package.

**2** Locate the line port at the end of the adapter.



*The line port is marked with this icon.*

**3** Plug one end of the cable into the line port.

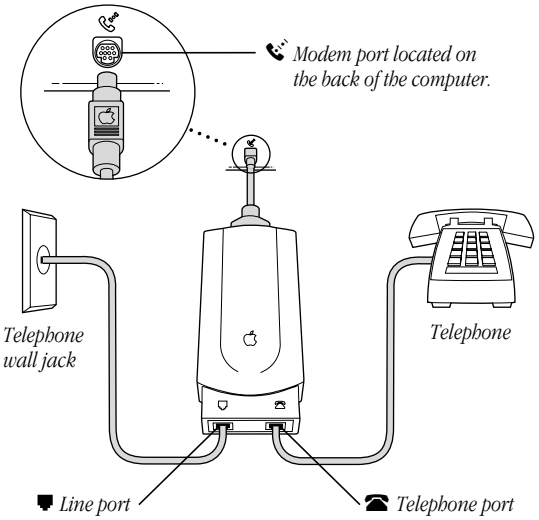


**4** Plug the other end of the cable into your telephone wall socket.

**5** Locate the telephone port at the end of the adapter.

**6** Plug your telephone into the telephone port.

Your installation should look similar to the illustration below.




Once the adapter is connected to your computer and telephone line, you are ready to install the software (if it is not already installed).

*See:* Chapter 2, "Installing Your Software."

## Connecting your internal modem

The Express Modem hardware in your PowerBook or PowerBook Duo and, in some configurations, the GeoPort Internal Modem hardware are installed either at the factory or, if purchased separately, by your Apple-authorized service provider.

In order to use your modem, you need to connect it to an analog telephone line using the supplied telephone cord.

To connect the modem to a telephone line

1. Plug one end of the phone cord into the appropriate port on your computer.

   Refer to your Macintosh user's manual for the location of the correct port.

2. Plug the other end of the phone cord into your telephone wall socket.

   Once the modem is connected to your telephone line, you are ready to install the software (if it is not already installed).

   *See:* Chapter 2, "Installing Your Software."

   **Important** If you have a GeoPort Internal Modem installed in your computer, do not connect anything to the external modem port because only the installed modem is active. Any program that reads or writes to the external modem port is redirected to the internal modem.

CHAPTER

# 2

# Installing Your Software

## In this chapter

- What the Installer does
- Installing the software
- Accessing the user's guides

## Before you begin

**Important** If you have a Performa computer, all the software you need is already installed. Skip most of this chapter, going directly to the last section, "Accessing the User's Guides."

Make sure you have connected your modem to your computer and your telephone line according to the installation instructions in Chapter 1 or according to the manual that came with your modem.

## Installing the Apple Telecom software

If your Apple Telecom software is not preinstalled on your computer, it comes on a CD-ROM or set of disks. The folder called Apple Telecom Disk 1 contains the Installer program that places the necessary software on your hard disk.

### What the Installer does

The Installer creates a folder called Telecom Applications and places it at the top level of your hard disk. It places the following folders inside this folder

- **Address Book Folder** which contains programs and files related to Apple Address Book
- **Fax Folder** which contains programs and files related to Apple Fax

The Installer places the Apple Telecom Status program in the Apple (🍎) menu, and places the modem control panel in the Control Panels folder of the System Folder.

The Installer creates a folder called Telecom Documents and places it at the top level of your hard disk. This folder contains a CCL  file for use with AppleLink. The CCL files for use with Apple Remote Access are installed directly in the Extensions folder of the System Folder.

The Installer also places all the appropriate program extension files in the Extensions folder of the System Folder.

### If you are upgrading

If you are installing this version of the Apple Telecom software over an older version, use the Easy Install option rather than the Custom Install option. This ensures that all files are updated as necessary.

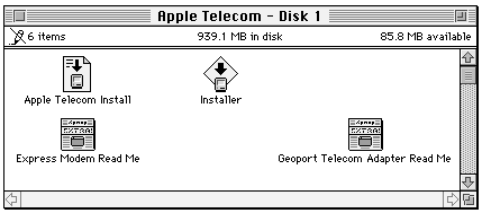
The Installer does the following with the existing Express Fax files

- Removes all program files except for Fax Cover.
- Moves Sent and Received faxes to the new Fax Folder inside the Telecom Applications folder. You can open and view these faxes within Apple Fax.
- Converts the Fax Terminal log file to a SimpleText document and places it in the new Fax Folder inside the Telecom Applications folder. You can open and view this document using SimpleText.
- Preserves all Fax Terminal address books in their own folders. You can convert a Fax Terminal address book to Apple Address Book format using the Address Book Translator included in the Address Book Folder inside the Telecom Applications folder.
- Moves all Express Fax cover pages to the new Fax Folder inside the Telecom Applications folder. You cannot open these cover pages using Apple Fax, but you can open them using Fax Cover and, for example, copy and paste portions of them to new Apple Fax cover pages.

## Installing the software

To install the Apple Telecom software

1. Turn on your computer.
2. Insert the CD-ROM in your CD-ROM drive or Disk 1 in your disk drive, then open the Apple Telecom Disk 1 window.



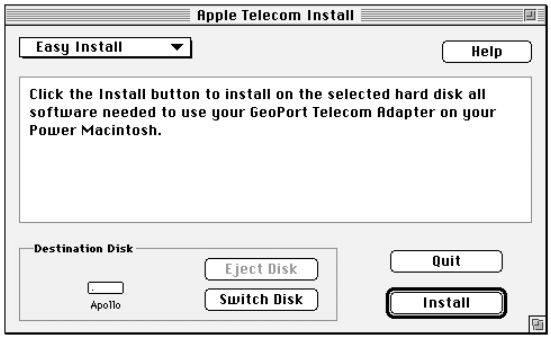

3. Double-click the Installer icon.

   An introductory dialog similar to the following appears.




4. Click Continue.

An Easy Install dialog box similar to the following appears.




Easy Install automatically detects the Macintosh model you are using and installs the software you need.

**5** Make sure the hard disk indicated is where you want to install the software.

If the wrong disk name appears, click the Switch Disk button until the disk you want appears.

**6** Click Install.

A message informs you when the installation is complete. You need to restart your computer in order to use your newly installed software.

**7** Click Restart to restart your computer and activate the software.

## Accessing the user's guides

If not preinstalled on your computer, the Adobe Acrobat Reader program and the following user's guides in Acrobat format are included on your CD-ROM or set of disks in the User's Guides folder.

- *Apple Address Book User's Guide*
- *Apple Fax User's Guide*
- *Apple Fax Scripting Guide*
- *Apple Telecom AT Command Set*

*If you have a Performa:* On Performa computers, these guides are already installed. (The *Apple Address Book User's Guide* and *Apple Fax User's Guide* can be found in the Applications section of the Launcher on Performa computers.)

These guides provide complete information about using Apple Address Book and Apple Fax and about preparing scripts for Apple Fax. Refer to these guides for more complete explanations of the tasks described in this guide and for other detailed information about how to use these programs.

To access a user's guide, you must first install Adobe Acrobat Reader on your hard disk (if not already installed).

To install Acrobat Reader

1. If necessary, copy the Acrobat Reader folder to your hard disk.
2. Open the Acrobat Reader folder, then double-click the Installer to install Acrobat Reader on your hard disk.
3. Click Restart to restart your computer and activate the software.

To access a user's guide

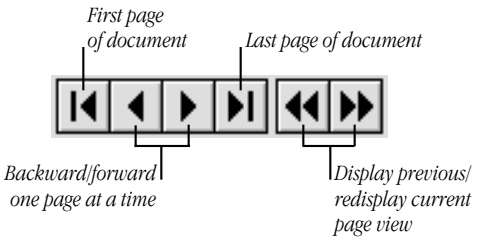
**1** If necessary, copy the User's Guides folder to your hard disk.

**2** Double-click a user's guide icon to open it.

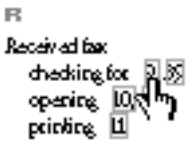
The Acrobat Reader program opens and displays the user's guide cover page.

**3** Use the Toolbar to browse through the document.

- Use the browse buttons to page through the document.




- Click on a title in the Table of Contents to move to that section, or a page number in the index to move to that page.




- Use the Bookmarks and Page icon to display the list of contents in outline form, then click on a title to move to that section.



- Use the Thumbnails and Page icon to display a miniature representation of each page of the document, then click on a page to move to it.



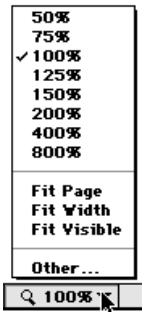
- Use the Find icon to search for a word or phrase in the document.



- Use the Page Number box at the bottom of the window to go to a specific page.




- Use the Magnification box at the bottom of the window to resize the display.




*See also: Acrobat Reader Online Guide* available from the Guide menu or from the Acrobat Help folder on your hard disk for more information about using Adobe Acrobat Reader.

CHAPTER

# 3

# Setting Up the Apple Telecom Software

### In this chapter

- Setting up Apple Address Book
- Setting up Apple Fax

### Before you begin

Make sure that you have installed the hardware and software according to the steps described in Chapters 1 and 2.

**Note:** This chapter is derived from information contained in the *Apple Address Book User's Guide* and *Apple Fax User's Guide*. Refer to these guides—included on your CD-ROM or set of disks, or preinstalled on your hard disk in Acrobat format—for complete information about using these programs. (On Performa computers, these guides can be found in the Applications section of the Launcher.)

*See also:* The "Quick Reference Guide" at the back of this guide for step-by-step instructions for the most important tasks you need to know in order to get started using Apple Address Book and Apple Fax.

## Setting up Apple Address Book

The first time you open Apple Address Book the Personal Info dialog appears for you to enter some personal information. This information appears on your fax cover pages.

### Starting and configuring for the first time

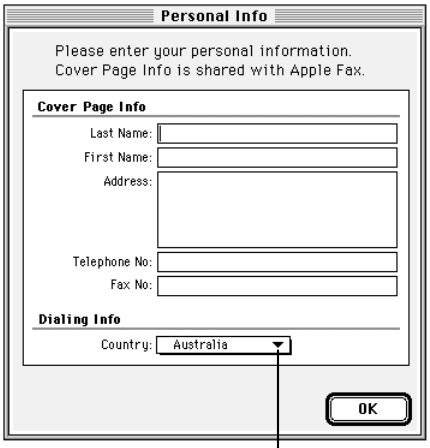
To start Apple Address Book

1 Open the Telecom Applications folder, then open the Address Book folder.

If you have a Performa computer, click the Apple Address Book button in the Applications section of the Launcher.

2 Open the Apple Address Book program by double-clicking it.

The Personal Info dialog box appears.




*Country pop-up menu provides name and country code.*

**3** Enter the information you want in the appropriate fields.

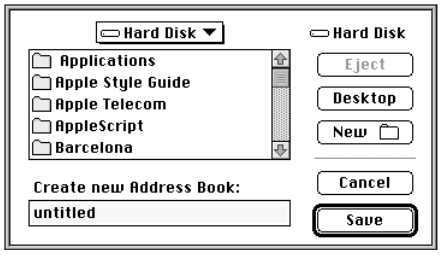
This information is stored in both the Apple Address Book and Apple Fax preferences. You can modify this information in the Personal Info preferences of either program: updating one updates the other. If you have already opened and entered personal information in Apple Fax, this information appears in the Personal Info dialog when you open Apple Address Book.

If your country does not appear in the Country pop-up menu, add it to the Apple Address Book Country preferences, then update the Apple Address Book Personal Info preferences.

*See: Apple Address Book User's Guide* for information about using the Apple Address Book preferences.

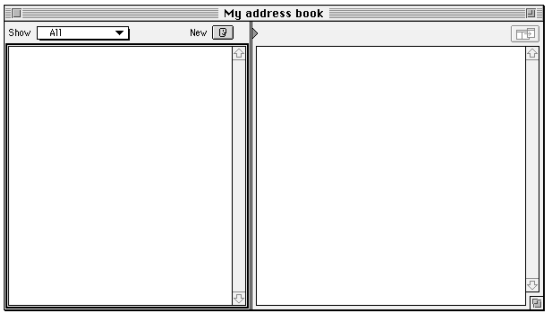
**4** Click OK.

A standard file dialog box appears prompting you to create a new address book.



**5** Enter a name and choose a location for the address book, then click Save.

A new, empty address book window appears.




You can create as many address books as you want to organize your information. Each address book that you create is an independent file with no relationship to other address books.

To create a new address book from within the program

**1** Choose New from the File menu.

The standard file dialog box appears.

**2** Enter a name and choose a location for the address book, then click Save.

Each address book you create is recorded in the Apple Address Book preferences. You can access and use these address books from Apple Fax.

*See also:* The "Quick Reference Guide" for instructions on adding a new entry to an address book.

## Setting up Apple Fax

The first time you open Apple Fax a setup window appears for you to choose your modem.

*If you have a Performa:* If you have a Performa computer, Apple Fax is already set up for you. You can skip to the next section, "Faxing a Document."

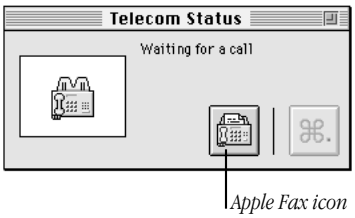
### Starting and configuring for the first time

To start Apple Fax

1 Choose Apple Telecom Status from the Apple (🍎) Menu.

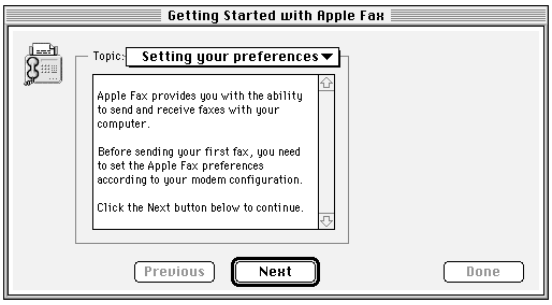



Apple Telecom Status appears.



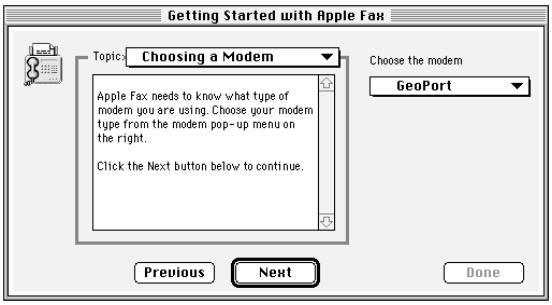

2 Click the Apple Fax icon, or choose Open Apple Fax from the File menu.

Apple Fax opens and presents the setup window.



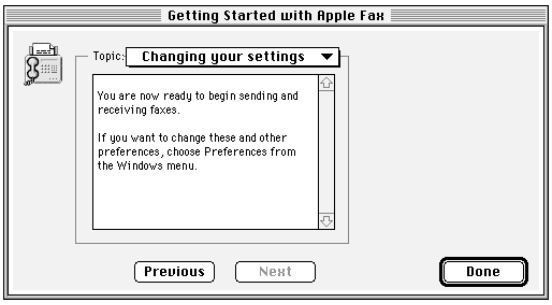

**3** Read the introductory text, then click Next or select Choosing a Modem from the Topic pop-up menu.

The Choosing a Modem panel appears




**4** Choose your modem type from the modem pop-up menu, then click Next.

The Changing your settings panel appears.




The descriptive text explains how to change these and other settings in Apple Fax preferences.

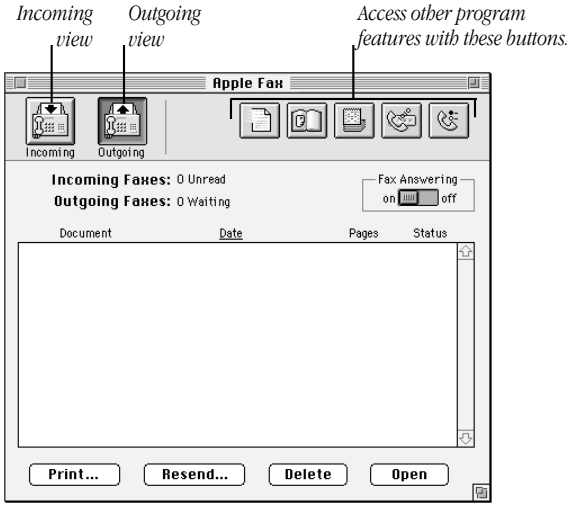
*See: Apple Fax User's Guide* for information about using the Apple Fax preferences.

**5** Click Done to confirm your settings and close the setup window.

**Important** If you are using a PC Card modem, you need to choose the correct port setting from the Apple Serial Modem control panel before you can begin sending or receiving faxes.

*See:* Chapter 5, "Using Your Modem" for information about choosing settings in the Apple Serial Modem control panel.

After you start and configure Apple Fax the first time, the Apple Fax main window appears in Outgoing view.




The Apple Fax main window has two distinct views—Outgoing view and Incoming view. Outgoing view displays all of your sent faxes and Incoming view your received faxes. You choose the view you want by clicking on either the Outgoing or Incoming icon in the upper left of the main window.

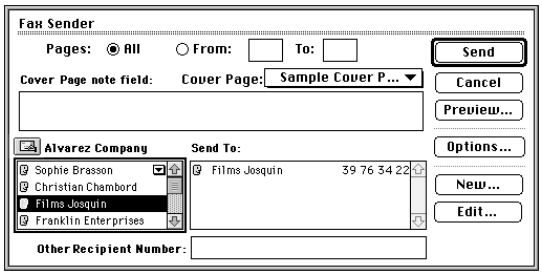
## Faxing a document

With Apple Fax you can open a document and send it immediately as a fax, even when the Apple Fax program itself is not open. You can send documents as faxes from any program that prints, such as a word processor, spreadsheet, or graphics program.

To send a fax from an open document

1. Make sure that the document you want to send as a fax is open and active.
2. Hold down the Control and Shift keys while choosing Print from the File menu.

   The Fax Sender dialog box appears.




**Note:** This keyboard shortcut does not work if you have QuickDraw GX installed. To send a fax with QuickDraw GX, you must create a desktop printer icon for Fax Sender GX.

*See:* "Using Fax Sender GX" in this chapter.

**3** Prepare the Fax Sender dialog, then click Send.

For your convenience, a sample document in SimpleText format called My First Fax is included in the Fax Folder inside the Telecom Applications folder on your hard disk. This document contains step-by-step instructions for preparing Fax Sender and sending your first fax.

*See also:* The "Quick Reference Guide" at the end of this guide for instructions on sending a fax from an open document, from the Quick Fax window, or from Apple Address Book.

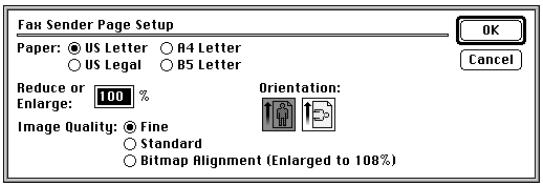
**Note:** If you did not create an address book and add entries to it, no address book appears in Fax Sender or the Quick Fax window.

### Using Fax Sender Page Setup

You can also use the Fax Sender Page Setup dialog box to format a document according to the requirements of your recipient. For example, if you are faxing to the U.S., use US Letter format; if you are faxing to Europe, use A4 Letter.

**1** Hold down the Control and Shift keys while choosing Page Setup from the File menu.

The Fax Sender Page Setup dialog box appears.




**2** Set up the document according to your recipient's requirements, then click OK.

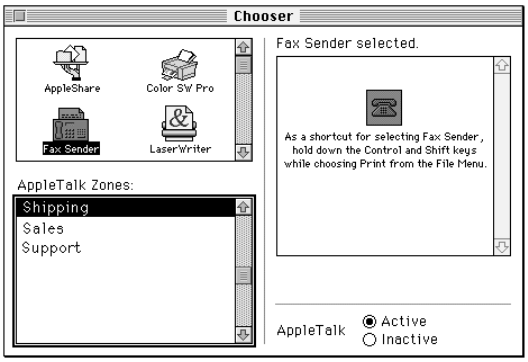
### Selecting Fax Sender from the Chooser

If you do not have a printer, or if you plan on sending faxes often, you can make Fax Sender the selected output device for all your documents, just as you normally select a printer. When Fax Sender is the selected output device, each time you print from a program or from the system your document is sent as a fax instead.

To make Fax Sender the selected output device

**1** Open the Chooser from the Apple (  ) menu.

The Chooser appears.




**2** Select the Fax Sender icon from the upper left panel.

**3** Close the Chooser.

Fax Sender remains selected until you choose another device in the Chooser.

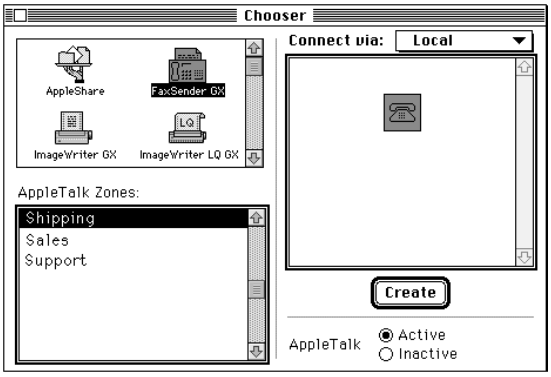
## Using Fax Sender GX

If you have QuickDraw GX installed as part of your system, use the Chooser to create a desktop printer icon for Fax Sender GX.

To choose Fax Sender GX

**1** Open the Chooser from the Apple menu.

The Chooser appears.



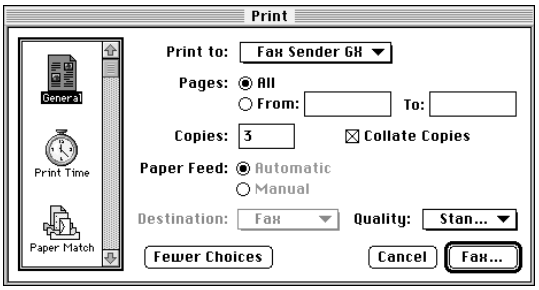

**2** Select the Fax Sender GX icon from the upper left panel, then click Create.

A printer icon for Fax Sender GX appears on the desktop. Now you can send documents as faxes just by dragging and dropping them onto this icon.

**3** Close the Chooser.

**4** Open the document you want to send as a fax, then choose Print from the File menu of your program; or drag a document file onto the desktop printer icon.

The Fax Sender GX print dialog box appears.



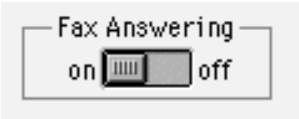

**5** Make sure that Fax Sender GX is selected in the Print to: pop-up menu, then click Fax.

Fax Sender GX images your fax. When imaging is complete, the Fax Sender print dialog box appears for you to prepare your fax for transmission.

### Preparing to receive faxes

To set Apple Fax to receive faxes automatically

1. Display the Apple Fax main window.
2. Set the Fax Answering button to on.




Apple Fax now manages the reception of incoming faxes automatically. Reception takes place in the background, so that the Apple Fax window does not have to be in front, or even open, in order to receive a fax.

**Note:** Make sure that the Express Modem control panel or Apple Serial Modem control panel is set to auto-answer. If it is not, you will not receive incoming faxes, even with Fax Answering on.

*See:* Chapter 5, "Using Your Modem" for information about setting auto-answer.

CHAPTER

# 4

# Using Apple Telecom Status

**In this chapter**

- Opening Apple Telecom Status
- Monitoring fax activity
- Canceling a fax
- Quitting Apple Telecom Status

## Introducing Apple Telecom Status

You use Apple Telecom Status to access Apple Fax and to monitor the current fax activity on your modem. The Telecom Status panel takes up a minimal amount of space on the desktop.

The Installer places the Apple Telecom Status program in the Apple (🍎) menu for easy access.

### Opening Apple Telecom Status

To open Apple Telecom Status

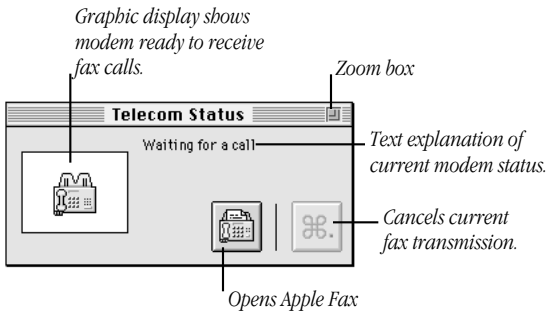
1 Choose Apple Telecom Status from the Apple (🍎) menu.




You can also access Apple Telecom Status from the button bar of the Apple Fax window.



The Apple Telecom Status panel appears.



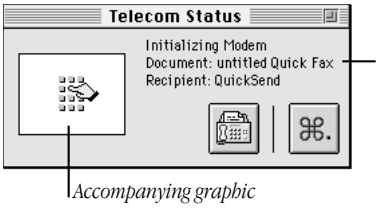

When the panel first opens, the program displays the default status of "Waiting for a call" (or "Idle" if auto-answer is Off). The graphic display shows the Apple Fax program icon, if it is in auto-answer mode.

To open Apple Fax, click the Apple Fax button, or choose Open Apple Fax from the File menu.

## Understanding the display

The status display changes when you send a fax or when you receive an incoming fax.

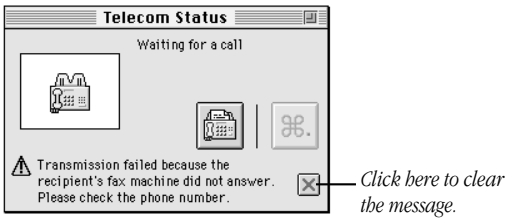
For example, at the start of an outgoing call, Apple Telecom Status displays information similar to the following




The status information changes as Apple Fax passes through the stages of dialing, ringing, making a connection, sending a fax, and disconnecting.

**Note:** When you send a fax, use Apple Telecom Status to monitor the progress of the fax transmission. Use Outgoing view in the Apple Fax window to confirm the final status of the fax (Sent, Failed, or Canceled).

When you receive an incoming fax, the status display monitors the progress of the communication. Messages that may appear during fax transmission are appended to the bottom of the panel



## Canceling a fax

You can cancel fax transmission at any time. The Apple Telecom Status panel is the only place from which you can cancel a fax.

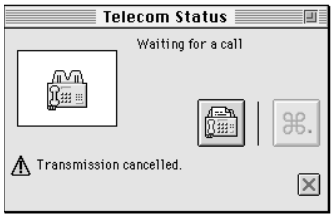
To cancel a fax

1. Confirm the progress of the call in the Telecom Status panel.
2. Click the Cancel button.



The call is canceled. The Apple Fax window displays a status of "Transmission canceled" for any intended recipients.

The Telecom Status display reads




3. Click the cross icon to clear the message.

## Quitting Apple Telecom Status

You can quit Apple Telecom Status at any time. Quitting the program does not affect the operation of Apple Fax.

To quit Apple Telecom Status

1. Choose Quit from the File menu.

By default Apple Telecom Status is set in the Apple Fax preferences to open automatically whenever there is fax activity.

*See also: Apple Fax User's Guide* for information about setting the Apple Fax preferences.

CHAPTER

# 5

# Using Your Modem

**In this chapter**

- What modems do
- Using the modem control panel
- Auto-answer and incoming call management

## What modems do

Modems allow computers to communicate over telephone lines. While computers manipulate information in digital format, most telephone systems carry information as analog (wave) signals. Therefore, in order for computers to communicate over the PSTN (Public Switched Telephone Network), information must be converted to and from digital and analog formats. A modem (modulator/demodulator) handles these format conversions. The modem of the sending computer converts information from digital format to an analog signal by a process called *modulation*. The modem of the receiving computer converts the analog signal back to digital format by a process called *demodulation*.

Modems also dial, establish connections, and control the flow of data across the telephone line so that transmission takes place with optimal speed and accuracy.

### Setting up a connection

Before two computers can exchange data over telephone lines, their modems must establish a connection and agree on how data will be transmitted.

Your modem is already set to make the best possible connection automatically. See Appendix A for a complete list of specifications and default settings.

**Note:** In general, it is best to accept your modem's automatic settings. If you want to control the speed, error control, and data compression settings yourself, see the *Apple Telecom AT Command Set* guide or the user's guide that came with your data communications software.

## Determining the speed

Initially, your modem tries to connect at its fastest speed, which is either 28800 or 14400 bits per second (bps). If the remote modem cannot connect at this speed, your modem falls back to the next highest speed. Fallback continues until the two modems agree on the highest speed supported by both.

### Error control

Error control is used by modems to ensure data accuracy. Your modem and the remote modem must agree on an error control method. Your modem will try to use one of two types of error control, V.42 or MNP class 2–4. If the remote modem does not support either of these types of error control, no error control is used.

### Data compression

Data compression increases the speed of your modem by eliminating gaps and redundancies in the data. With data compression enabled, the speed can increase up to 4 times the non-compression speed.

Your modem can use two different types of data compression, V.42 bis or MNP class 5. If the remote modem does not support either of these types of data compression, no data compression is used.

## Using the modem control panel

The modem control panel serves as a central point for controlling and monitoring modem functions. While most communications programs allow you to set the same functions as the control panel, control panel settings take precedence over program settings. You may want to check the settings in the control panel if a program does not behave as intended.

Although your modem hardware has only one physical connection to the phone line, the modem software can open more than one logical connection—also called *association*—for voice, fax, and data. The settings in the modem control panel are therefore general and apply to all associations.

The Express Modem software can open associations for voice, fax, and data. The Apple Serial Modem software can open either associations for voice and fax or open an association for data. A data association in Apple Serial Modem software overrides fax and voice associations.

*See also:* "Incoming call management" in this chapter for more information about how the modem software manages incoming calls to the various communications programs installed on your computer.

**Note:** Some of the settings described in this section may not appear on your control panel, depending on your computer model.

## Turning the modem on and off (Express Modem only)

If the Express Modem software is off, it is turned on automatically when a program needs it for an outgoing communication. But while it is on the modem uses about 600K of system memory, so you may want to turn it off when you do not need it. The On/Off buttons in the Express Modem control panel indicate whether the modem software is running.

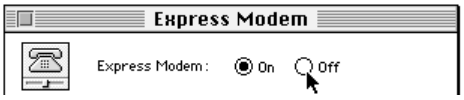
**Important** Remember that turning the modem off overrides the auto-answer setting of any communications program that uses the Express Modem software. You will not be able to receive incoming calls with the modem off.

To turn the modem off

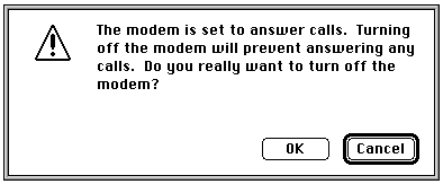
1. Open the Express Modem control panel.

   The control panel appears.

2. Click the Off button.




The following alert appears.




3. Click OK to turn the modem off.

## Choosing the port setting (Apple Serial Modem only)

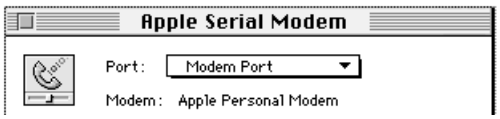
If you are using a serial modem, such as a PC Card modem, then after you connect it to your computer you need to choose the port setting in the Apple Serial Modem control panel. This tells the Apple Serial Modem software the location of the modem.

To choose the port setting

1. Open the Apple Serial Modem control panel.

   The control panel appears. The Modem field displays the name of the modem hardware.

2. Choose the port where the modem is attached to the computer from the Port pop-up menu.




### Using data communications programs

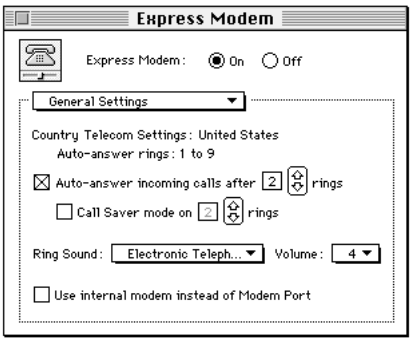
Choose the logical port setting "Data Port" in the connection settings of your data communications programs. This setting allows you to open a data connection while your fax and voice programs are set to auto-answer.

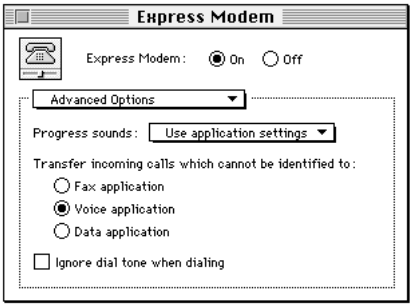
Fax and voice activity is suspended while a data connection is open. After the data connection is closed, control of the modem returns to the fax and voice programs.

If you do not use the "Data Port" setting, then attempting to open a data connection with fax or voice set to auto-answer produces a "Modem in use" error message.

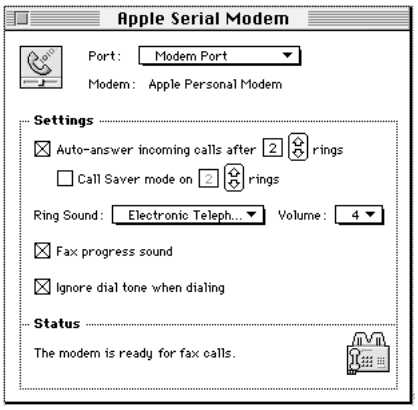
## Using the modem settings

The Express Modem settings are contained in two panels: General Settings and Advanced Options. Use the pop-up menu to display either panel.



The Apple Serial Modem settings are contained in the Settings section of the control panel.




### Country Telecom Settings (Express Modem only)

The Country Telecom Settings are information fields that display the current country and the allowed range for the number of rings for auto-answer, based on your hardware installation. You cannot edit these fields.

**Note:** Apple Serial Modem software also manages the country-specific ring range value, but does not display it.

### Auto-answer incoming calls

When "Auto-answer incoming calls" is selected—and at least one program is set to auto-answer—the modem software automatically answers incoming calls after the number of rings specified in the ring number field. Calls are answered according to priorities described in the section "Incoming call management" in this chapter.

The checkbox and ring number field override the auto-answer setting of any communications program that uses the modem software. If you want to receive calls in any of your communications programs, make sure that this checkbox is selected and the number of rings specified.

If you want to prevent your modem from answering incoming calls, deselect the checkbox. If you do this, the modem will not answer calls even if other communications programs are set to auto-answer.

**Note:** If your modem shares the same line with your telephone, and you want to make sure that the modem does not answer your incoming calls before you do, you can either deselect the "Auto-answer incoming calls" checkbox or set the number of rings to a high value.

### Call Saver mode

You can use Call Saver mode to save money on connection charges when retrieving voice messages remotely from your voice mail. If there are new messages and Call Saver mode is selected, the modem answers at the number of rings set in the Call Saver ring number field. If the modem does not answer after the Call Saver ring number setting, you still have time to hang up.

In order to use Call Saver mode correctly, the value in the Call Saver ring number field must be at least two rings less than the value in the auto-answer ring number field. For example, you can set auto-answer to 5 rings and Call Saver to 2 rings. If your voice mail does not respond by the third ring, then you know that there are no new messages.

### Ring Sound

Choose the sound that your Macintosh plays when you receive an incoming call from the Ring Sound pop-up menu. You can also install and use your own sounds.

See the Macintosh Guide in the Guide menu or the documentation that came with your computer for information about installing additional sounds.

### Use internal modem (Express Modem only)

The "Use internal modem instead of Modem Port" checkbox is only available on certain Macintosh PowerBook computers. It does not appear, for example, if your computer uses the GeoPort Telecom Adapter, as the setting is done automatically.

This feature redirects all modem activity from the modem port to the internal modem.

For example, if you use a non-CTB compatible program with the Express Modem hardware, you need to select this checkbox. This enables non-CTB programs that use Serial Port A (Modem Port) to communicate with the Express Modem software.

If you plan to use another serial device on your Modem Port, such as a printer, you need to deselect the checkbox.

**Note:** Either checkbox setting is acceptable for Apple Remote Access.

**Important** Applications that use a non-standard means of accessing a modem (for example, bypassing the serial driver and directly controlling the hardware, or implementing an alternative to the standard serial driver) cannot be used with the Express Modem software.

### Progress sounds (Express Modem only)

| MENU SETTING | MEANING |
|---|---|
| Use application settings | Allows you to control the speaker volume from the application setting and Sound control panel. |
| Turn off | Turns the speaker off for applications that use the modem. Same as setting ATM=0 for all modem applications. |
| Keep on until carrier | Leaves the speaker on until Carrier is established. Same as setting ATM=1 for all modem applications. |

### Fax progress sound (Apple Serial Modem only)

You can monitor the progress sounds of a sent fax by selecting the "Fax progress sound" checkbox (the default). Deselect the checkbox to turn off all sounds during fax send or receive.

### Transfer of unidentified incoming calls (Express Modem only)

Your modem identifies the type of incoming call by detecting the calling tones sent by modems and fax machines. Since not all devices use calling tones, some calls cannot be identified. To enable the modem to answer unidentified calls—when calling tone detection is unsuccessful—use the "Transfer incoming calls" buttons to choose the program to answer unidentified calls.

If you are going to receive voice calls, choose "Voice." If you are going to receive data calls, choose "Data." If you expect to receive both voice and data calls, ask your callers to send a data calling tone when calling your machine.

Make sure you set the program designated to handle unidentified calls (voice, fax, or data) to auto-answer.

**Note:** Transfer of unidentified calls is performed automatically in the Apple Serial Modem software, but for fax and voice calls only.

### Ignore dial tone when dialing

When the "Ignore dial tone when dialing" checkbox (known as blind dialing) is selected, the modem dials even though a dial tone cannot be detected. This is a useful feature for locations with a PBX system, such as hotels, where the modem may have difficulty recognizing the PBX dial tone. Selecting the checkbox has the same effect as setting the AT command ATX3 for all programs.

Leaving "Ignore dial tone when dialing" deselected allows you to control blind dialing at the program level.

*See also:* The ATX command in the *Apple Telecom AT Command Set* guide.

### Wake Macintosh on ring (Express Modem only)

The "Wake Macintosh on ring" checkbox is only available on certain Macintosh PowerBook computers. When a ring signal is detected on the telephone line, your PowerBook wakes up and—provided Express Modem and at least one program are set to auto-answer—answers the call.

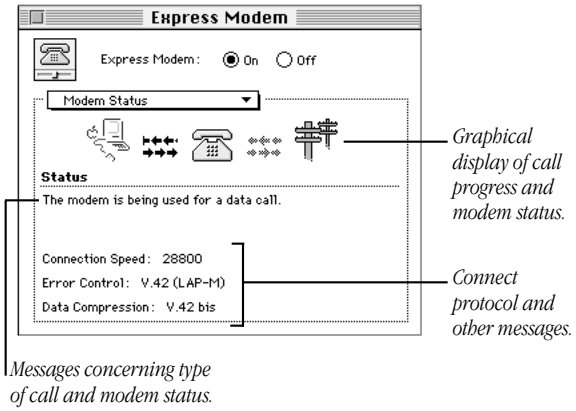
When the checkbox is selected, the PowerBook wakes up for an incoming call even if Express Modem is turned off, or neither the modem nor any program are set to auto-answer. When the checkbox is deselected, the PowerBook will not wake up, so an incoming call is not answered even if Express Modem and a program are set to auto-answer.

**Note:** "Wake Macintosh on ring" is also an internal function of certain Power Macintosh computers, though for these computers the checkbox is not available in the control panel. Your computer will wake up whenever there is an incoming call, provided Express Modem and at least one communications program are set to auto-answer.

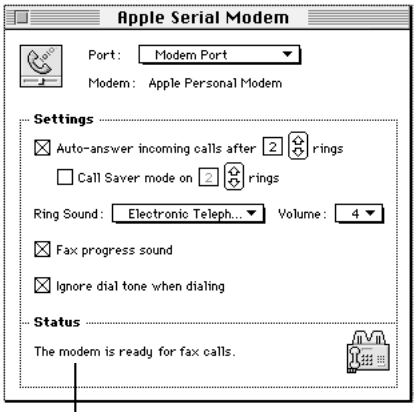
## Using the status display

The status display provides you with ongoing information about the status of the modem, including current state, type of connection, and call progress.

The Express Modem status display is available from the pop-up menu. The display provides additional information for outgoing data calls, including connection speed, error control, and data compression.



The Apple Serial Modem status display appears in the Status section of the control panel.




*Status information.*

You can view the connection process by stages: idle, preparing for connection, opening a connection, and progress of connection. The modem software monitors each stage, displaying messages and icons.

The Status display also shows all alert messages. You can use this display for troubleshooting purposes if you have a problem with a connection.

## Incoming call management

Your modem is designed to answer incoming calls, determine their type, and manage the open associations for the communications programs on your computer. This function is known as incoming call management.

When a call comes in, the modem software tries to identify the type of call by detecting calling tones. It then checks to see which programs are set to auto-answer and connects the incoming call to the appropriate program.

While the modem is on, it answers calls automatically according to the following set of rules and priorities

- The modem only answers if "Auto-answer incoming calls" is selected in the control panel.
- The modem only answers if at least one program is set to auto-answer.
- If several different programs are set to auto-answer, the modem uses calling tone detection to identify the type of call, then sends it to the corresponding program.
- Under certain conditions, if no calling tone is detected, the call is passed to the program designated in the "Transfer incoming calls" setting (for Express Modem), if there is an association of that type open.
- If no association of the appropriate type is open, the call is resolved according to an internal hierarchy.

## Setting auto-answer at the program level

You need to set auto-answer in your communications program in order to receive incoming calls automatically.

The following table tells you how to set auto-answer in the various programs that work with modem software.

| TYPE OF PROGRAM | HOW TO SET AUTO-ANSWER |
|---|---|
| Terminal emulators | Set the program's S0 register. See the program's user's guide for information on setting the S0 register, or use the AT commands listed in the *Apple Telecom AT Command Set* guide. |
| Apple Remote Access and other servers | Use an ARA CCL file. CCL files are provided with the modem software. *See* Appendix B, "Tips and Troubleshooting." |
| Apple Fax | Set Fax Answering to On in the Apple Fax window. |

## Setting manual answer at the program level

Turn auto-answer off in a program if you need to handle incoming calls manually.

The following table tells you how to set manual answer in the various programs that work with modem software.

| TYPE OF PROGRAM | HOW TO SET MANUAL ANSWER |
|---|---|
| Terminal emulators | Set the program's S0 register to 0 to turn off auto-answer. To answer a call manually, issue the ATA command. See the program's user's guide for information on setting the S0 register, or use the AT commands listed in the *Apple Telecom AT Command Set* guide. |
| Apple Remote Access and other servers | Apple Remote Access must be set to auto-answer. |
| Apple Fax | Set Fax Answering to Off in the Apple Fax window. See the *Apple Fax User's Guide* for information about answering a fax call manually. |

APPENDIX

# A

# Technical Specifications

**In this appendix**

This appendix contains technical specifications for the following hardware and software

- GeoPort Telecom Adapter
- GeoPort Internal Modem
- Express Modem
- Apple Serial Modem software
- Express Modem software

## GeoPort Telecom Adapter, GeoPort Internal Modem, and Express Modem hardware

**HARDWARE SPECIFICATIONS**

| | |
|---|---|
| Power requirements | The GeoPort Telecom Adapter operates from the computer's power, via the cable that connects the adapter to the computer. The cable's connector has an extra pin that powers the adapter. A separate power supply or battery is not needed.<br><br>Quadra 660AV and 840AV do not support connections at 28800 bps. |
| Operating voltage and current | 5V ±5% @ ≤ 500 mA. |
| *Operating and storage environment* | |
| Operating temperature | 10° C to 40° C (50° F to 104° F) |
| Operating humidity | 20% to 90%, noncondensing at a temperature range of 25° C to 40° C (77° F to 104° F) |
| Operating altitude | 0 to 2135 m (0 to 7703 ft.) |
| Storage temperature | -40° C to +65° C<br>(-40° F to +149° F) |

## Apple Serial Modem software

| MODEM | | |
|---|---|---|
| ITU V21 | 300 bps | Full Duplex |
| ITU V22 | 1200 bps | Full Duplex |
| ITU V22 Bis | 2400 bps | Full Duplex |
| ITU V23 | 1200/75-75/1200 bps | Full Duplex |
| ITU V32 Bis | 14400 bps | Full Duplex |
| ITU V34 | 28800 bps | Full Duplex |
| U.S. Standards | Bell 103 and 212A | Full Duplex |

| FAX | | |
|---|---|---|
| ITU V27 ter | 4800 bps | Half Duplex |
| ITU V29 | 9600 bps | Half Duplex |
| ITU V17 | 14400 bps | Half Duplex |

| GENERAL | |
|---|---|
| Command set | Hayes compatible, TR29 class 2 Group 3 fax, voice macro commands |
| Error correction | MNP4-V42 |
| Data compression | MNP5-V42 bis |
| Serial speed | 300 to 115200 bps |
| Line speed | 75, 300, 1200, 2400, 4800, 7200, 9600, 14400, 28800 |
| Data format | Serial, binary, asynchronous, 7 or 8 bits, even or odd parity |
| Dialing | Tone or pulse |
| Voice functions | Automatic detection of fax or voice calls, answering machine, local record/playback |
| Parameters | Saved in non-volatile memory |
| Command buffer | 64 characters |

## Express Modem software

### COMMAND SET

| | |
|---|---|
| AT Command Set | Extended Hayes AT command set |

### DATA COMMUNICATIONS STANDARDS

| | |
|---|---|
| 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 2400, 4800 bps | ITU V.34 (GeoPort only/ not available on Quadra AV computers) |
| 14400, 12000, 9600, 7200, 4800 bps | ITU V.32 bis |
| 9600, 4800 bps | ITU V.32 |
| 2400 bps | ITU V.22 bis |
| 1200 bps | Bell 212A |
| 1200 bps | ITU V.22 |
| 1200/75 bps | ITU V.23 |
| 75/1200 bps | ITU V.23 |
| 300 bps | ITU V.21 |
| 300 bps | Bell 103 |

### GROUP 3 FAX COMMUNICATION STANDARDS

| | |
|---|---|
| 2400, 4800 bps | ITU V.27 ter |
| 7200, 9600 bps | ITU V.29 |
| 12000, 14400 bps | ITU V.17 (not available on Quadra AV computers) |

### ERROR CONTROL

| | |
|---|---|
| ITU V.42 | |
| MNP Classes 2–4 | |
| Fax Error Correction Mode (ECM) | ITU T.30 |

### DATA COMPRESSION

ITU V.42 bis (up to 4:1 compression)
MNP Class 5 (up to 2:1 compression)

### DIALING CAPABILITY

Tone/pulse dialing

Auto or manual dialing and answering

### DATA TRANSMISSION AND FORMAT

Full or half duplex operation

Asynchronous or framed modes

| | |
|---|---|
| Character formats | 5, 6, 7, 8 data bits<br>1 or 2 stop bits<br>Odd, even, or no parity |

### MEMORY REQUIREMENTS

The Express Modem software uses approximately 600 K of system RAM when the modem application is turned on.

APPENDIX

# B

# Tips and Troubleshooting

**In this appendix**

- Checking the installation
- Common problems
- Setting up Apple Remote Access

## Checking the installation

A good place to begin for resolving problems that arise during setup is to double-check your installation.

1. Unplug and reconnect the telephone cable to ensure a good connection. Check all other connections.
2. If you are using the Express Modem software, make sure it is on. Open the Express Modem control panel and check the setting.

   If the On button is not selected, click On. If the On button does not stay selected, or if the control panel does not appear, try reinstalling the software.

   If you still have trouble, see the resource materials that came with your Macintosh for a service number to call. Your service provider can make sure that the modem software is correctly installed and that your modem is functioning properly.

### Checking the telephone line

Make sure your modem is communicating with the telephone line.

1. Depending on your computer, open the Monitors and Sounds control panel or the Sound control panel, and check that the volume is set above the lowest mark.

   By increasing the volume, you can verify both that there is a dial tone when you try to open communications and that the modem can dial telephone numbers.

2. Open your communications program and enter terminal mode.

   Terminal mode sends the characters you type on the keyboard to your modem and displays them on the screen.

3. Try dialing your own telephone number.

   If you hear a busy signal, you are properly connected.

4. If you do not hear a dial tone, test your telephone line by connecting a working telephone and cable to the line.

   Plug the telephone into the wall jack to verify the dial tone. If there is none, the telephone line is the source of the problem. The telephone line may be a digital line, in which case the modem will not work.

5. If you hear a dial tone on your telephone but not through your modem, test your modem's telephone cable by connecting it to the wall jack and to the telephone.

   If there is no dial tone, the telephone cable is the source of the problem. Return it to your service provider for replacement.

6. If your modem still has no dial tone, see the service and support information that came with your computer for a number to call.

   **WARNING** If your modem needs repair, take it to an Apple-authorized service provider. Do not attempt to repair or reinstall modem hardware yourself.

## Verifying that your software is properly installed

You can check that the Apple Telecom software is properly installed by watching the bottom of your screen when you restart your computer. You will see the Apple Fax and modem icons, as illustrated below. The Apple Fax and Express Modem icons are animated: the paper emerges from the fax machine on the Apple Fax icon and the buttons on the phone are pressed on the Express Modem icon.



*Apple Fax*



*Express Modem*



*Apple Serial Modem*

For Express Modem, you can also check the control panel directly. If the Express Modem software is installed and a program has opened an association with the modem, the Modem button in the Express Modem control panel is set to On.

## Common problems

**Q:** *I have trouble connecting to a remote fax.*

1. If telephone line quality is poor, you may need to send the fax several times.
2. You may have trouble sending or receiving a fax at the same time you are transferring files across an AppleTalk network using File Sharing. In this case, do not transfer files while sending or receiving your fax.
3. Try sending faxes with both V.17 and ECM turned on (if your configuration supports this feature). If you encounter difficulties, turn off V.17 first. If the problem persists, turn off ECM. (You turn V.17 and ECM on and off in the Apple Fax Modem preferences.)
4. If fax transmission fails, you can choose to resend only the pages not already sent by selecting "Resend only pages not already sent" in the Modem preferences of Apple Fax Preferences.

**Q:** *I have trouble receiving incoming calls.*

1. Make sure that your communications program is set to auto-answer.

   For Apple Fax, make sure that Fax Answering is set to On. Check the appropriate setting for auto-answer in your communications program or terminal emulator.
2. Open the modem control panel and make sure the "Auto-answer incoming calls" checkbox is selected.

**Q:** *I archived some fax documents from the "Sent Fax Documents" and "Received Fax Documents" folders. When I put them back, some of them did not appear in the Apple Fax lists.*

Sent and received fax documents are different file types. If you put a received fax into the "Sent Fax Documents" folder, for example, it does not show up in the list. Be sure to archive sent and received faxes separately.

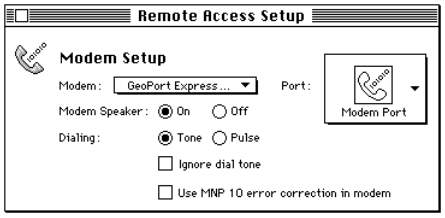
**Q:** *When I try to open Apple Fax or my communications program, I get a message that says there is not enough memory.*

1. Quit any programs that you are not currently using.
2. Close any windows that you don't need open.
3. If you are using Express Modem software, try turning off the modem in the Express Modem control panel. It may be loaded into memory in such a way that the largest free block is not big enough, but the total of available blocks is. Turning off the modem frees up approximately 600K of memory. When a program like Apple Fax needs the modem, it will turn it on again automatically. Of course, you should not turn off the modem while using it for a voice, fax, or data connection.

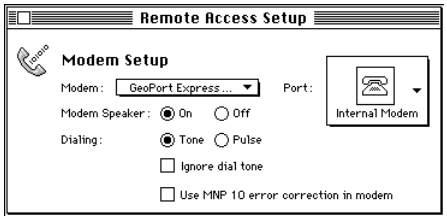
## Setting up Apple Remote Access

Your modem installation includes Apple Remote Access (ARA) CCL files for all supported modems. To use a CCL file with Apple Remote Access

1. Make sure Apple Remote Access is properly installed.
2. If the CCL files are not in the Extensions folder, drag or copy them to the Extensions folder.
3. Double-click the Remote Access Setup control panel.
4. Select the CCL file for your modem from the Modem pop-up menu (the GeoPort/Express Modem file or the Apple Serial Modem file).



**5** Select the icon from the Port pop-up menu that corresponds to your hardware installation.




- For GeoPort (including GeoPort Internal Modem), choose Modem Port.
- For Express Modem hardware, choose Internal Modem.
- For Apple Serial Modem hardware, choose Data Port.

**6** Close the Remote Access Setup control panel and open the Apple Remote Access program.

*See also: Apple Remote Access User's Guide* for more information about making a connection using Apple Remote Access.

# GLOSSARY

## A

**analog transmission** Transmission of a continuously variable signal as opposed to a discretely variable signal. Physical quantities such as temperature are continuously variable and so are described as analog. Data characters, on the other hand, are coded in discrete separate pulses or signal levels, and are described as digital. The normal way of transmitting a telephone or voice signal has been analog, but now digital encoding is coming into use over trunk lines. Compare with *digital signal*.

**answer mode** The connection mode in which the modem answers the telephone.

**application program** A program that puts the resources and capabilities of the computer to use for some specific purpose or task, such as word processing, database management, graphics, or telecommunications.

**asynchronous** Not synchronized by or with a clocking signal.

**asynchronous transmission** Transmission in which each information character is individually synchronized, usually by the use of start and stop bits. The gap between each character isn't necessarily fixed. Compare with *synchronous transmission*.

**auto-answer** A modem capability that allows automatic answer when the phone rings.

**auto-dial** The ability to initiate a connection with another modem automatically.

## B

**baud** Unit of analog signaling speed taken from the name Baudot. The speed in baud is equal to the number of signal events per second, regardless of the information content of those signals. Compare with *bps*.

**binary** The representation of numbers in terms of powers of 2, using the digits 0 and 1. Commonly used in computers, since the values 0 and 1 can easily be represented in physical form in a variety of ways, such as the presence or absence of current, positive or negative voltage, or a white or black dot on the display screen.

**bit** A binary digit (0 or 1); the smallest possible information unit, consisting of a simple two-way choice, such as yes or no, on or off.

**blind dialing** Blind dialing allows the modem to dial out even though no dial tone can be detected (may not be available in your country).

**bps** (bits per second) The basic unit for measurement of digital data communications transfer rate. Usually refers to the rate at which the information is transmitted. Sometimes inaccurately called the baud rate. Compare with *baud*.

## C

**CCL** An abbreviation for connection control language. This language is used to write connect sequence files, sometimes called CCL files or scripts.

**character** Any symbol that has a widely understood meaning. Some characters, such as letters, numbers, and punctuation marks, can be displayed on the monitor screen and printed on a printer. Others are used to control various functions of the computer.

**code** A number or symbol used to represent some piece of information in a compact or easily processed form.

**command** A communication from the user to a computer system (usually typed from the keyboard) directing it to perform some immediate action.

**command state** The state the modem is in when keyboard input is recognized by communications software as command codes to be executed. Compare with *terminal mode* and *online state*.

**communications session** The condition of being connected to and accessible by another computer.

**configuration** A list of changeable modem characteristics that must be properly set to allow a computer to communicate with a modem.

**connector** A physical device such as a plug, socket, or jack used to connect one hardware component of a system to another.

**connect time** The amount of time spent online with an information service, usually billed at an hourly rate.

## D

**data** Any type of information, such as numbers, letters, or symbols, that can be processed by a computer.

**database** A collection of information organized in a form that can be accessed and processed by a computer system.

**data communications** A broad term covering any exchange of information between computers or similar systems over telephone lines or computer networks.

**data compression** The various methods used to save storage space by reducing or eliminating gaps, redundancies, empty fields, and unnecessary data.

**decimal** The common form of number representation used in everyday life, in which numbers are expressed in terms of powers of 10, using the ten digits 0 through 9.

**default** A value, action, or setting that is automatically used by a computer system when no other explicit information has been given.

**demodulate** To recover the information being transmitted by a modulated signal. For example, a conventional radio receiver demodulates an incoming broadcast signal to convert it into sound emitted by a speaker.

**device** A piece of equipment connected to a computer. A modem is a device.

**digit** (1) One of the characters, 0 through 9, used to express numbers in decimal form. (2) One of the characters used to express numbers in some other form, such as 0 and 1 in binary or 0 through 9 and A through F in hexadecimal.

**digital signal** A discrete or discontinuous signal; one whose various states are discrete intervals apart. Compare with *analog transmission*.

**digital to analog converter** A device that converts data from digital to analog form.

**duplex transmission** Two-way transmission.

## E

**echo** To send a signal back to the originating device for display or verification.

**error code** A number or other symbol representing a type of error.

**error control** A process that analyzes data blocks and calculates information about their content. The resulting error-control information is transmitted with the data so that the remote computer can verify data integrity.

**error correction mode (ECM)** A software protocol for error correction used for fax transmission and reception. ECM is helpful when telephone line quality is poor, but it is not supported by most older fax machines.

**error message** A message displayed or printed to notify the user of an error or problem in the execution of a program.

**even parity** Use of an extra bit set to 0 or 1 as necessary to make an even number of 1 bits in a character. For example, the 7-bit ASCII code for the letter A (1000001) has two 1 bits; for even parity, the transmitting device appends an eighth bit equal to 0 so that the total number of 1 bits remains even (01000001). The receiving device can count the bits as a way of checking for transmission errors.

## F

**fallback** The process modems use to find a common connection speed, starting at the highest rate supported or set by both modems.

**fax machine** A machine that can scan a page and then transmit the image of the page over telephone lines; a receiving machine prints a copy of the original page.

**fax server program** A program that passively awaits an incoming call for faxes. Apple Fax is an example of a fax server program.

**flow control** A method of signaling between computers so that pauses in data transmission allow time for data to be received.

**font** In typography, a complete set of characters, letters, and symbols in one size and style.

**format** The form in which data is stored, manipulated, or transferred.

**full duplex** (1) A setting causing characters that you enter on your computer to be echoed from a remote system. (2) A four-wire communications circuit or protocol that allows simultaneous two-way transmission.

## G

**GeoPort Telecom Adapter** A device that connects between your computer's modem port and the Public Switched Telephone Network. Selecting the appropriate GeoPort Telecom Adapter depends on the telephone network capabilities and the country where used.

**Group 3 fax** A digital document facsimile transmission procedure on the Public Switched Telephone Network.

## H

**half-duplex** (1) A setting causing characters that you enter on your computer to be echoed not from a remote system but on your screen. (2) A two-wire circuit designed for communications in either direction but not both directions simultaneously.

**handshaking** A protocol for devices to exchange information about the communications connection itself, such as when to start and stop transmitting.

**host computer** The Macintosh in which your modem is installed.

## I

**input** (1) Information transferred into a computer from some external source, such as the keyboard, a disk drive, or a modem. (2) The act or process of transferring such information.

**interface** The devices, rules, or conventions by which one component of a system communicates with another.

**I/O** Input/output; the transfer of information into and out of a computer.

**ITU** International Telecommunications Union.

## J

**jack** A socket used for a telephone line or other electrical connections.

## L

**local echo** A method of communication in which your modem or software displays data "locally" on your screen, without relying on the host computer to echo the characters back.

**log off** To type a command to the host computer that terminates the communications session.

**log on** To enter a series of responses to prompts by the host computer to identify yourself, your password, sometimes your terminal, and so forth, to start a communications session.

## M

**mainframe computer** A large computer whose speed and storage capacity allow it to handle huge amounts of data and work with many terminals.

**millisecond** One thousandth of a second; abbreviated ms.

**MNP** An abbreviation for Microcom Networking Protocol. MNP Classes 2–4 are error control protocols. MNP Class 5 is a data compression protocol.

**modem** A device for converting digital information into tones that can be transmitted over telephone lines. The tones are modulated (changed in frequency, amplitude, or phase) to represent the information; modem stands for "modulator/demodulator."

**modulate** To modify or alter a signal to transmit information; for example, conventional broadcast radio transmits sound by modulating the amplitude (amplitude modulation, or AM) or the frequency (frequency modulation, or FM) of a carrier signal.

## O

**odd parity** Use of an extra bit set to 0 or 1 as necessary to make the total number of 1 bits in a character an odd number. For example, the 7-bit ASCII code for the letter A (1000001) has two 1 bits; for odd parity, the transmitting device appends an eighth bit equal to 1 (11000001) so that the total number of 1 bits remains odd. The receiving device can count 1 bits as a way of checking for transmission errors.

**off-hook** Your equipment takes control of the telephone line (picks up the receiver).

**on-hook** Your equipment releases (hangs up) the telephone line.

**online state** The state the modem is in when data is being exchanged with another computer over the telephone line. Compare with *terminal mode*.

## P

**parity** A method of detecting errors in data transmission. Due to higher-quality telephone lines and higher-level error control protocols, many host computers don't support parity.

**parity bit** A check bit appended to an array of binary digits to make the sum of all the binary digits, including the check bit, always odd or always even.

**parity error** Absence of the correct parity bit in a received character.

**PBX** Private Branch Exchange. An automatic switchboard for handling large concentrations of telephones (usually digital extensions).

**port** The point of connection (usually physical) between a computer and a peripheral device, another computer, or a network.

**protocol** An agreement between computers about the form and content of the information they exchange.

**protocol negotiation** The process of reaching agreement between computers about the form and content of the data they exchange.

**PSTN** Public Switched Telephone Network.

**pulse** An abrupt and relatively short change in voltage, either positive or negative, resulting in the conveyance of data in a circuit.

## R

**remote computer** A computer other than your Macintosh, but connected to it, either directly or through your modem and telephone lines. A remote computer can be at any distance from your computer, from right beside it to thousands of miles away.

**RJ-11** A modular phone jack and receptacle for telephone equipment.

## S

**serial communication** Data that is transmitted one bit at a time over one wire, as compared with parallel communication, where data is transmitted several bits at a time over several wires.

**serial interface connection** A socket (or port) on the back of your computer designed to connect with a device that receives characters one at a time (serially).

**serial modem** A modem that uses a serial interface and serial communications.

**synchronous** Having a constant time interval between successive bits, characters, or events. The term implies that all the equipment in the system is in step.

**synchronous transmission** A transmission process such that between any two significant instances there is always an integral number of unit (time) intervals.

## T

**telecommunications** The transmission of information across long distances, such as over telephone lines.

**terminal** An input/output device consisting of a typewriter-like keyboard and a display device, used for communicating with a large computer. Personal computers typically have all or part of a terminal built into them.

**terminal emulation** Software that transforms your Macintosh into a remote terminal for any dial-up computer system.

**terminal mode** The communications software mode of operation in which keyboard input is sent to the modem, which recognizes it as commands or passes it on to the remote modem. Compare with *command state*.

**throughput** The effective data transfer rate measured in bps. This rate is a combination of the connection rate and data compression. A compressed version of a file transfers more quickly than an uncompressed version, even though the connection rate is the same.

**tone-dialing** A method of dialing by sending dual-tone multi-frequency (DTMF) signals over the phone line.

## V

**V.17** An ITU protocol defining the frequency and modulation used between two high-speed fax machines (12000, 14400 bps) (not available on Quadra AV machines/may not be available in your country).

**V.32** An ITU protocol defining the frequency and modulation used between two high-speed modems (9600, 4800 bps).

**V.32 bis** An ITU protocol defining the frequency and modulation used between two high-speed modems (7200, 12000, 14400 bps).

**V.34** An ITU protocol defining the frequency and modulation used between two high-speed modems (up to 28800 bps).

**V.42** An ITU error control protocol.

**V.42 bis** An ITU data compression protocol.

## X

**XModem** A protocol to send files from one computer to another, that informs you if an error occurs. Also known as MODEM7.

**XON/XOFF** A handshake protocol (transmit-On/transmit-Off) used by computers and intelligent terminals to control the flow of data between the systems.

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# Quick Reference Guide

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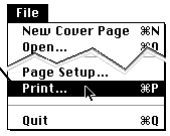
- Sending a fax
- Monitoring and canceling a fax
- Creating an address book entry

*See also: Apple Address Book User's Guide* and *Apple Fax User's Guide* for complete information about using these programs.

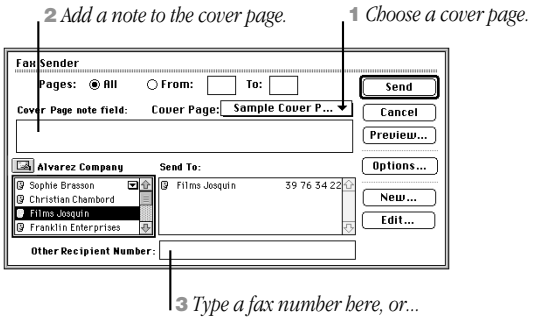
## Sending a document as a fax

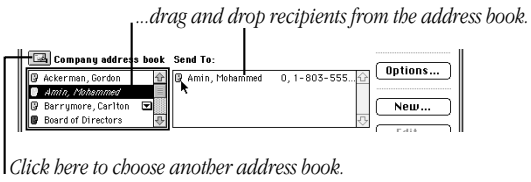
**1** Open the document you wish to fax.

**2** Type Control-Shift (⇧) and




**3** Prepare the Fax Sender dialog




**4** Click

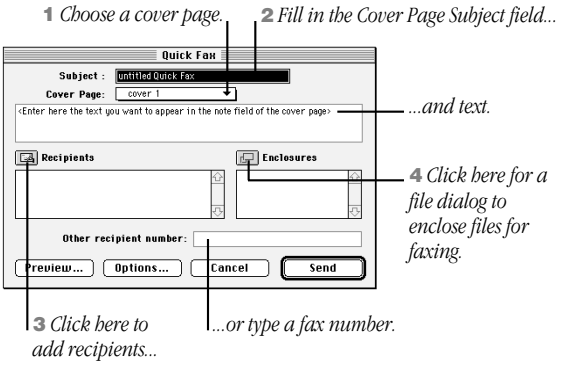


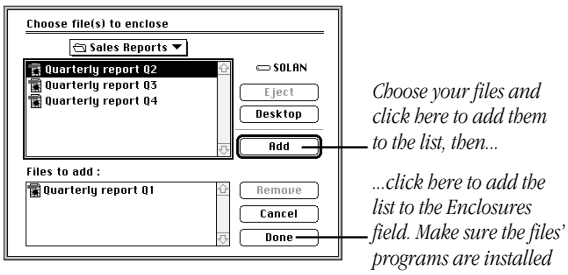
## Sending a fax from Apple Fax

**1** Open the Quick Fax window




**2** Prepare the Quick Fax window



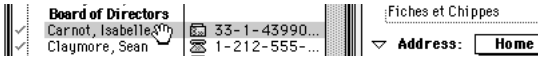




**3** Click



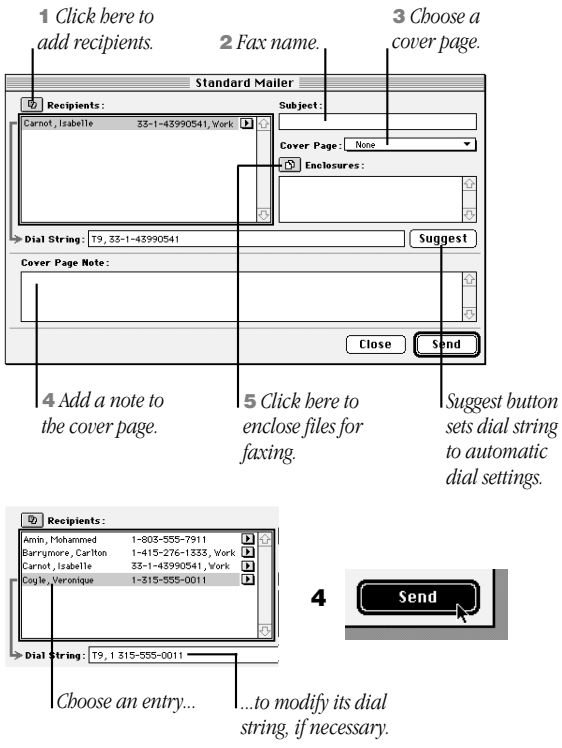
## Sending a fax from Apple Address Book

**1** Select an entry

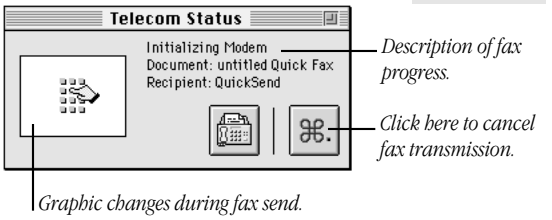


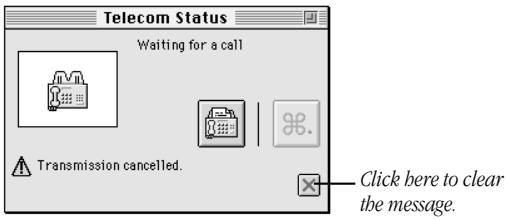

**2** then click 


**3** Prepare the Standard Mailer window



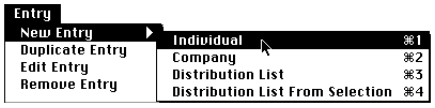
## Monitoring and canceling a fax



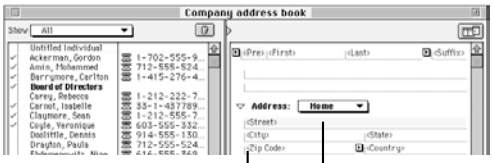



## Creating a new entry in Apple Address Book

**1** Choose the type of entry you want to create




**2** Type the information for the entry in the available fields

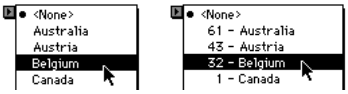



*Angle brackets identify information to enter in each field.*

*Use the TAB key or the mouse to move from field to field.*

Entry information is **saved automatically** as you move from field to field, or when you close the window or quit the program.

**3** **Always** use Country pop-up menus for addresses and numbers.



**4** Select a field that contains information and

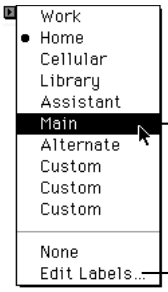



*Choose here to mark one field only for Entry List display.*

*Vital info marker appears as an exclamation point next to field ( ).*

*Choose here to mark a number as first choice for dialing.*

*Preferred info marker appears as a dot next to field ( ).*

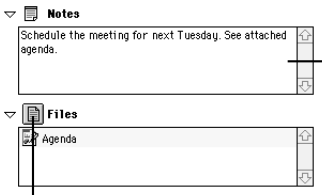



*Change any field label, or...*

*...enter your own labels.*



**5** Add notes or associate files with the entry




*Enter notes of up to 32,000 characters.*

*Click here for a file dialog to associate files with the entry.*



# Getting Started With Apple Telecom

*Communications kit for your Macintosh computer*

Apple Computer, Inc.

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EasyReader, the Optical Character Recognition (OCR) software application included with Apple Fax, uses a neural network recognition system developed by Mimetics. Additional language dictionaries can be obtained by contacting Mimetics at the following address:

Mimetics
5, Central Park
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92298 Châtenay-Malabry
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## Communications regulation information

The following information is provided in compliance with US FCC (Federal Communications Commission) and Canadian DOC (Department of Communications) regulations.

### FCC statement

This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. See instructions if interference to radio or television reception is suspected.

### Radio and television interference

The equipment described in this manual generates, uses, and can radiate radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with Apple's instructions—it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

You can determine whether your computer system is causing interference by turning it off. If the interference stops, it was probably caused by the computer or one of the peripheral devices.

If your computer system does cause interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit from the television or radio. (That is, make certain the computer and the television or radio are on circuits controlled by different circuit breakers or fuses.)

If necessary, consult an Apple-authorized service provider or Apple. See the service and support information that came with your Apple product. Or, consult an experienced radio/television technician for additional suggestions.

**Important** Changes or modifications to this product not authorized by Apple Computer, Inc., could void the FCC Certification and negate your authority to operate the product.

This product was tested for FCC compliance under conditions that included the use of Apple peripheral devices and Apple shielded cables and connectors between system components. It is important that you use Apple peripheral devices and shielded cables and connectors between system components to reduce the possibility of causing interference to radios, television sets, and other electronic devices. You can obtain Apple peripheral devices and the proper shielded cables and connectors through an Apple-authorized dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance.

### DOC statement

**DOC Class B Compliance** This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

**Observation des normes—Classe B** Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur : "Appareils Numériques", NMB-003 édictée par le ministre des Communications.

### VCCI statement

情報処理装置等電波障害自主規制について

この装置は、第二種情報装置（住宅地域又はその隣接した地域において使用されるべき情報装置）で住宅地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。

しかし、本装置をラジオ、テレビジョン受信機に近接してご使用になると、受信障害の原因となることがあります。

取扱説明書に従って正しい取り扱いをしてください。

### Notify your telephone company

Some telephone companies require that you notify the local business office when you hook up a modem to their lines.

### Information you need in the United States

The GeoPort Telecom Adapter and the GeoPort Internal Modem complie with Part 68 of the FCC rules. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN). If requested, provide this information to your telephone company.

- Ringer equivalence number (REN): 0.8B
  The REN is useful to determine the quantity of devices you may connect to your telephone lines and still have all those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.
- Telephone jack type: USOC, RJ-11

  An FCC-compliant telephone cord and modular plug are provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack that complies with Part 68 rules. See the installation instructions for details.

### Telephone line problems

If your telephone doesn't work, there may be a problem with your telephone line. Disconnect the modem to see if the problem goes away. If it doesn't, report the problem either to your local telephone company or to your company's telecommunications people.

If disconnecting the modem eliminates the problem, the modem itself may need service. See the service and support information that came with your Apple product for instructions on how to contact Apple or an Apple-authorized service provider for assistance.

If you do not disconnect your modem when it is adversely affecting the telephone line, the telephone company has the right to disconnect your service temporarily until you correct the problem. The telephone company will notify you as soon as possible. Also, you will be informed of your right to file a complaint with the FCC.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of your equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications to maintain uninterrupted service.

The GeoPort Telecom Adapter and the GeoPort Internal Modem will not work with party lines, cannot be connected to a coin-operated telephone, and may not work with a private branch exchange (PBX).

### Telephone Consumer Protection Act

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or botton of each transmitted page or on the first page of the transmission, the date and time it was sent and an identification of the business or other identity, or other individual sending the message and the telephone number of the sending machine of such business, entity, or individual.

### Information you need in Canada

The Canadian Department of Communications (DOC) label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to a user's satisfaction.

Before installing this equipment, make sure that you are permitted to connect to the facilities of the local telecommunications company. Be sure you use an acceptable method of connection to install the equipment. In some cases, you may extend the company's internal wiring for single-line individual service by means of a certified telephone extension cord. Be aware, however, that compliance with these conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any equipment malfunctions or repairs or alterations that you make to this equipment may cause the telecommunications company to request that you disconnect the equipment.

In Canada, contact Apple at:
7495 Birchmount Road
Markham, Ontario
L3R 5G2
800-263-3394

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**WARNING** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or electrician.

- Load number: 15

  The load number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to the telephone loop that is used by the device, to prevent overloading. The termination of a loop may consist of any combination of devices, subject only to the requirement that the sum of the load numbers of all devices does not exceed 100.

- Telephone jack type: CA-11

# How to Use This Book

This guide provides complete information about connecting your modem hardware and installing and starting to use your Apple Telecom software.

It is assumed that you are familiar with basic Macintosh desktop operations. If not, refer to the Macintosh Guide in the Guide ? menu (the Guide menu is the one with the question mark icon), or the documentation that came with your computer.

## What this guide contains

This guide contains five chapters, two appendixes, and a Quick Reference Guide.

- **Chapter 1** explains how to connect your modem hardware.
- **Chapter 2** explains how to install the Apple Telecom software and access the electronic user's guides. (With Performa computers, Apple Telecom software comes already installed.)
- **Chapter 3** explains how to set up and start to use the two main programs of the Apple Telecom software: Apple Address Book and Apple Fax.
- **Chapter 4** explains how to use the Apple Telecom Status program.
- **Chapter 5** introduces basic information about data communications and explains how to use the modem control panel.
- **Appendix A** contains hardware and software technical specifications.
- **Appendix B** provides advice on checking your installation and troubleshooting, and on setting up Apple Remote Access for use with your modem software.
- **Quick Reference Guide** at the back of this guide contains step-by-step instructions for the most important tasks you need to know in order to get started using Apple Address Book and Apple Fax.

## What you need

To use Apple Telecom you need

- System 7.1 or later
- one of the following modems (Performa computers already come with one of these modems.)

**GeoPort/Express Modem family**

- GeoPort Telecom Adapter
- GeoPort Internal Modem
- Apple Express Modem

**Apple Serial Modem family**

- supported PC Card modem

To use the drag and drop capabilities of Apple Telecom you also need

- System 7.5 or later, or the Macintosh Drag & Drop extension for System 7.1.2

## Introducing the Apple Telecom software

The Apple Telecom software consists of

- A control panel and communications tools specific to your modem hardware
- Apple Telecom Status, for providing quick access to Apple Fax and for monitoring fax activity on the modem
- Apple Address Book, for creating and recording entries in your own address books and for sending faxes to one or more entries directly from an address book
- Apple Fax, for sending, monitoring, and managing faxes

**Note:** The exact components and programs of the Apple Telecom software installed on your computer depend on your computer and modem configuration.

### Apple Telecom Status features

Apple Telecom Status software allows you to monitor the current fax activity on your modem and to open Apple Fax. An alias of Apple Telecom Status is placed in the Apple menu for easy access.

Features of the Apple Telecom Status program include

- Compact display panel
- Graphical and textual description of modem activity
- Open Apple Fax
- Cancel the current fax activity

## Apple Address Book features

Apple Address Book software allows you to create your own detailed individual, company, and distribution list entries, and to import entries from other programs. Apple Address Book also works together with Apple Fax to initiate a communication directly from an address book entry.

Features of the Apple Address Book program include

- Entry panel for preparing detailed entries
- Numerous display options for presenting information according to your needs
- Powerful search facility
- Easy-to-use import and export facility
- Send a fax to an entry directly from an address book
- Location settings for automatically displaying the correct dial string to and from any location
- Calling card support
- Access and use address books directly from Apple Fax without opening the Apple Address Book program

## Apple Fax features

Apple Fax software supports Group 3 fax send and receive capability. It allows you to convert any Macintosh document to fax format and send it to a dedicated fax machine or to another computer capable of receiving faxes.

Features of the Apple Fax program include

- V.17, V.29, and V.27 ter ITU (depending on your modem) high-speed, reliable fax send and receive at 14400, 12000, 9600, 7200, 4800, and 2400
- Easy send and forward of fax documents to one or several recipients
- Single-sheet Quick Fax send, with or without enclosures
- Automatic fax resend if transmission fails on first attempt
- Viewing, printing, and editing of faxes
- Personalized fax cover page design
- OCR (Optical Character Recognition) feature for converting all or part of a fax to text